REMARKS

Claims 1-8 are pending in the application. Claims 9-18 were canceled without prejudice. Claim 1 has been amended by the present amendment. The amendment is fully supported by the application as originally filed.

The drawings were objected to because the "external device" recited in claim 1 was not depicted in the figures. Claim 1 has been amended to delete the phrase "for electrically connecting the semiconductor package device to an external device," thereby obviating the drawing objection.

Applicant's claimed invention is directed to a multi-chip device with a heat sink, including: a chip carrier; at least one first chip mounted on the chip carrier; at least one semiconductor package mounted on the chip carrier; and the heat sink having at least one hollow part extending through the heat sink to release *thermal stresses* from the heat sink.

Referring to FIGS. 4a to 4c of the application, a plurality of hollow parts 34a are formed through a heat sink 34 for the purpose of releasing thermal stresses from the heat sink 34 (see, e.g., page 9, line 24 to page 10, line 1 of the specification).

Claims 1-4 and 6-8 were rejected under 35 USC 103(a) as being unpatentable over "Admitted Prior Art (APA), figures 1-3" in view of U.S. Patent 6,469,897 to Ho et al. ("Ho"). Claim 5 was rejected under 35 USC 103(a) as being unpatentable over "APA" in view of Ho, and further in view of U.S. Patent 5,598,033 to Behlen et al. These rejections are respectfully traversed.

FIGS. 1 to 3b, as discussed in the "Background of the Invention" section of the application, depict conventional integrated circuit package devices. As indicated in the Office Action: "APA does not explicitly teach that at least one hollow part extending through the heat

sink is formed at an area of the heat sink free of contact with the first chip and the semiconductor package to release thermal stresses from the heat sink" (page 4, second paragraph).

The Ho reference was cited for allegedly teaching a "through-hole 260" in FIG. 2D. However, reference number 260 in Ho corresponds to a **grounding plug**, which is not equivalent to the Applicant's claimed "at least one hollow part extending through the heat sink ... to release thermal stresses from the heat sink" (see claim 1).

Referring to FIGS. 2B to 2D, Ho teaches that an electrically-conductive material, such as solder or silver epoxy, fills up a heat-sink via hole 222 of heat sink 220 and a tape via hole 212 of tape 210 to form a grounding plug 260 (see column 4, lines 6-13 and 49-59). The grounding plug 260 serves to electrically connect the heat sink 220 to a grounding solder-ball pad 241, thereby allowing the grounding solder balls 281 to have a greater ball shear strength that can firmly secure them in position.

In Ho, the grounding plug 260 is not hollow, but instead must be filled with electrically-conductive material in order to achieve an electrical connection between the heat sink 220 and the grounding solder-ball pad 241. Moreover, there is no teaching or suggestion that the grounding plug 260 can be used to somehow release thermal stresses from the heat sink 220.

Therefore, the grounding plug 260 of Ho is not equivalent to the "at least one hollow part extending through the heat sink ... to release thermal stresses from the heat sink," as recited in claim 1. Moreover, even if the grounding plug 260 were somehow made hollow, this change would destroy its electrical connectivity, and thereby eliminate its usefulness.

For at least the reasons discussed above, it would not be possible to modify "APA" with Ho to somehow produce the Applicant's claimed invention.

It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,

Date: August 2, 2005

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